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E.	100				Application Number	10/603,573
A BADEMA	P INFO	ORMATIC	N DI	SCLOSURE	Filing Date	June 24, 2003
	STA	TEMENT	BY A	PPLICANT	First Named Inventor	Tai, Yu-Chong
					Art Unit	1753
	(use as many sheets as necessary)			s necessary)	Examiner Name	Unassigned
	Sheet	1	of	2	Attorney Docket Number	020859-002410US

				U.S. PATENT DO	CUMENTS+	
		Document Number				
Examiner Initials	Cite No.1	Number Kind Code ² (if kn	iown)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
V	AA	US 6,572,749	B1	06-03-2003	Paul et al.	
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				FOREIGN PA	TENT DOCUME	NTS		
Examiner Initials*	Cite No.1	For	eign Patent Doo Number ⁴	Wind Cods ¹ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	16
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INCORMATION	DICOL OCUBE	Application Number	10/603,573	
INFORMATION I		Filing Date	June 24, 2003	
STATEMENT BY	APPLICANT	First Named Inventor	Tai, Yu-Chong	
·		Art Unit	1753	
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Sheet 2	of 2	Attorney Docket Number	020859-002410US	

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4	AB	HARRIS, Shrinking the LC Landscape, Analytical Chemistry, February 1, 2003, pp. 64-69.	
V	AC	High Performance Liquid Chromatography (HPLC): A Users Guide, http://www.pharm.uky.edu/ASRG/HPLC.hplcmytry.html, printed 6/19/03.	
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FORMATION DISCLOSURE	Application Number	10/603,573	
AUG 1:1 2005 AUG 1:1 2005 AUG 1:1 2005	Filing Date	06/24/2003	
AUS 1:1 LUCE	First Named Inventor	Yu-Chong TAI	
Date Submitted, August 11, 2005	Group Art Unit	1753	
e as many sheets as necessary)	Examiner Name	Unassigned	
1 of 3	Attorney Docket Number	049411-0248	

		U.S. Patent D	ocument	Name of Patentee or Applicant of Cited Document	Date of Publication of	Pages, Columns, Lines Where Relevant
	Cite No.1	Number	Kind Code ² (if known)		Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear
UK	B1	09/442,843		Tai et al.	11-18-1999	
	B2	2003-0008192	A1	Tai et al.	01-09-2003	
	B3	2003-0228411	A1	Tai et al.	12-11-2003	
	B4	2004-0237657	A1	Tai et al.	12-02-2004	
	B5	2005-0051489	A1	Tai et al.	03-10-2005	
	B6	4,402,817		Maget	09-06-1983	
	B7	4,687,423		Maget et al.	08-18-1987	
	B8	5,994,696		Tai et al.	11-30-1999	
1	B9	6,162,367		Tai et al.	12-19-2000	
	B10	6,240,962	B1	Tai et al.	06-05-2001	
	B11	6,436,229	B2	Tai et al.	08-20-2002	
1/	B12	6,520,753	B1	Grosjean et al.	02-18-2003	
V	B13	6,709,604	82	Tai et al.	03-23-2004	

				FC	REIGN PATENT DOCUMEN	TS	
Examiner Initials*	Cite No.1	Fore Office ³	eign Patent D	ocument Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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UR	B14	BÖHM, et al., "A closed-loop controlled electrochemically actuated micro-dosing system," J. Micromech., Microeng. Vol. 10, pp. 498-504, (2000).	
	B15	CAMERON et al., "Electrolytic actuators: Alternative, high performance, material-based devices," PNSA, Vol. 99, No. 12, pp. 7827-7831, (June 11, 2002).	,
	B16	CHEN et al., "A Planar Electroosmotic Micropump," Journal of Microelectromechanical Systems, Vol. 11, No. 6, pp. 672-683, (December 2002).	
V	B17	CHEN et al., "Generating high-pressure sub-microliter flow rate in packed microchannel by electroosmotic force: potential application in microfluidic systems," Sensors and Actuators B 88, pp. 260-265, (2003).	

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Substitute for form 1449B/PTO INFORMATION DISCLOSURE				Complete if Known		
				Application Number	10/603,573	
STATEMENT BY APPLICANT			CANT	Filing Date	06/24/2003	
D. 4 O. 1 Mark. Avenues 44, 2005			1 2005	First Named Inventor	Yu-Chong TAI	
Date Submitted: August 11, 2005				Group Art Unit	1753	
(use as many sheets as necessary)			cessary)	Examiner Name	Unassigned	
Sheet	2	of	3	Attomey Docket Number	049411-0248	

		NON PATENT LITERATURE DOCUMENTS					
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JK	B18	DASGUPTA et al., "Electroosmosis: A Reliable Fluid Propulsion System for Flow Injection Analysis," Analytical Chemistry, Vol. 66, No. 11, pp. 1792-1798, (June 1, 1994).					
	B19	HARRIS, et al., "Shrinking the LC Landscape", Analytical Chemistry, pp. 65A-69A (Feb. 1, 2003).					
	B20	KÄMPER et al., "A Self-Filling Low-Cost Membrane Micropump," International conference on Micro Electro Mechanical Systems, pp. 432-437, (January 1998).					
	B21	LAURELL et al., "Miniaturization is mandatory unraveling the human proteome," Proteomics, Vol. 2, pp. 345-351, (2002).	:				
	B22	LAZAR et al., "Multiple Open-Channel Electroosmotic Pumping System for Microfluidic Sample Handling," Analytical Chemistry, Vol. 74, No. 24, pp. 6259-6268, (December 15, 2002).					
	B23	LEE et al., "Solvent Compatibility of Poly(Dimethylsiloxane)-Based Microfluidic Devices," Analytical Chemistry, Vol. 75, No. 23, pp. 6544-6554, (December 1, 2003).	_				
	B24	LEE et al., "Fabrication and in vitro test of a microsyringe," Sensors and Actuators 83, pp. 17-23, (2000).					
	B25	LICKLIDER et al., "A Micromachined Chip-Based Electrospray Source for Mass Spectrometry," Analytical Chemistry, Vol. 72, No. 2, pp. 367-375, "January 15, 2000).					
	B26	MOORE et al., "A Microscale Electrospray Interface Incorporating a Monolithic, Poly(styrene-divinylbenzene) Supporting for On-Line Liquid Chromatography/Tandem Mass Spectrometry Analysis of Peptides and Proteins," Analytical Chemistry, Vol. 70, No. 23, pp. 4879-4884, (December 1, 1998).					
	B27	MUNYAN et al., "Electrically actuated, pressure-driven microfluidic pumps," Lap on a Chip, Vol. 3, pp. 217-220, (2003).					
	B28	NEAGU et al., "An electrochemical active valve," Electrochimica Acta, Vol. 42, No. 20-22, pp. 3367-3373, (1997).					
	B29	NEAGU et al., "An Electrochemical Microactuator: Principle and First Results," Journal of Microelectromechanical Systems, Vol. 5, No. 1, pp. 2-9	<u>·</u>				
	B30	NGUYEN et al., "MEMS - Micropumps: A Review," Transactions of the ASME, Vol. 124, pp. 384-392, (June 2002).					
	B31	PARK et al., "A Piezoelectric Micropump Using Resonance Drive with High Power Density," JSME International Journal, Series C, Vol. 45, No. 2, pp. 502-509, (2002)	-				
V	B32	PAUL et al., "Electrokinetic Generation of High Pressures Using Porous Microstructures," Micro Total Analysis Systems, pp. 49-52, (October 1998).					

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Substitute for form 1449B/PTO			PTO	Complete if Known		
INFORMATION DISCLOSURE				Application Number	10/603,573	
STATEMENT BY APPLICANT Date Submitted: August 11, 2005 (use as many sheets as necessary)			CANT	Filing Date	06/24/2003	
			1 2005	First Named Inventor	Yu-Chong TAI	
			1, 2005	Group Art Unit	1753	
			cessary)	Examiner Name	Unassigned	
Sheet	3	of	3	Attorney Docket Number	049411-0248	

		NON PATENT LITERATURE DOCUMENTS					
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UK	B33	REICHMUTH et al., "Increasing the performance of high-pressure, high-efficiency electrokinetic micropumps using zwitterionic solute additives," Sensors and Actuators B 92, pp. 37-43, (2003).					
	B34	REYES et al., "Micro Total Analysis Systems. 1. Introduction, Theory, and Technology," Analytical Chemistry, Vol. 74, No. 12, pp. 2623-2636, (June 15, 2002).					
	B35	SCHABMUELLER et al., "Self-aligning gas/liquid micropump," Journal of Micromechanics and Microengineering, Vol. 12, pp. 420–424, (2002).					
	B36	SELVAGANAPATHY, et al., "Bubble-Free Electrokinetic Pumping," Journal of Microelectromechanical Systems, Vol. 11, No. 5, pp. 448-453, (October 2002).					
	B37	SHIH et al., "Surface Micromachined and Integrated Capacitive Sensors for Microfluidic Applications," Transducers, pp. 388-391, (2003).					
	B38	STANCZYK et al., "A Microfabricated Electrochemical Actuator for Large Displacements," Journal of Microelectromechanical Systems, Vol. 9, No. 3, pp. 314-320, (September 2000).					
	B39	SUZUKI et al., "A reversible electrochemical nanosyringe pump and some consideration to realize low-power consumption," Sensors and Actuators B 86, pp. 242-250, (2002).					
	B40	TAKAMURA et al., "Low-voltage electroosmosis pump for stand-alone microfluidics devices," Electrophoresis 2003, Vol. 24, pp. 185-192, (2003).					
	B41	WOIAS et al., "Micropumps – summarizing the first two decades," SPIE, Vol. 4560, pp. 39-52, (2001).					
	B42	WU et al., "MEMS flow sensors for nano-fluidic applications," Sensors and Actuators A 89, pp. 152-158, (2001).					
	843	XIE et al., "An Electrochemical Pumping System for On-Chip Gradient Generation," Analytical Chemistry, Vol. 76, No. 13, pp. 3756-3763, (July 1, 2004).					
	B44	XIE et al., "Electrolysis-Based On-Chip Dispensing System for ESI-MS," International Conference on Micro Electro Mechanical Systems, pp. 443-446, (2003).					
	B45	ZENG et al., "Fabrication and characterization of electroosmotic micropumps," Sensors and Actuators B-79, pp. 107-114, (2001).					

Examiner Signature	Lorelan	Date Considered	12/5/06

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